

British Museum (Natural History)



BRITISH BUTTERFLIES

SERIES No. 1

5 Cards in Colour

Set E 5

One Shilling



BRITISH BUTTERFLIES

Swallow-tail (*Papilio machaon*)

Natural size

BRITISH MUSEUM (NATURAL HISTORY)

Printed by Henry Stone & Son Ltd.

POST CARD

THIS SPACE MAY BE USED FOR
CORRESPONDENCE

(FOR ADDRESS ONLY)





BRITISH BUTTERFLIES

- (a) Orange Tip (*Euchloe cardamines*) (b) Brimstone (*Gonepteryx rhamni*)
 (c) Clouded Yellow (*Colias croceus*) *Natural size*

BRITISH MUSEUM (NATURAL HISTORY)

POST CARD

THIS SPACE MAY BE USED FOR
CORRESPONDENCE

(FOR ADDRESS ONLY)





a



c



b



d

BRITISH BUTTERFLIES

- (a) Comma (*Polygonia c-album*) (b) Pearl-Bordered Fritillary (*Argynnis euphrosyne*)
 (c) Small Pearl-Bordered Fritillary (*Argynnis selene*)
 (d) Painted Lady (*Pyrameis cardui*) Natural size

BRITISH MUSEUM (NATURAL HISTORY)

POST CARD

THIS SPACE MAY BE USED FOR
CORRESPONDENCE

(FOR ADDRESS ONLY)





b



a

BRITISH BUTTERFLIES

(a) Purple Emperor (*Apatura iris*) (b) White Admiral (*Limenitis sibilla*)
Natural size

BRITISH MUSEUM (NATURAL HISTORY)

POST CARD

THIS SPACE MAY BE USED FOR
CORRESPONDENCE

(FOR ADDRESS ONLY)





a



b



a



b



c



d



d



c

BRITISH BUTTERFLIES

- (a) Green Hairstreak (*Callophrys rubi*) (b) Common Blue (*Polyommatus icarus*)
 (c) Duke of Burgundy Fritillary (*Nemeobius lucina*)
 (d) Large Skipper (*Augiades sylvanus*) Natural size

BRITISH MUSEUM (NATURAL HISTORY)

POST CARD

THE FRONT MAY BE USED FOR
CORRESPONDENCE.

(FOR ADDRESS ONLY)

BRITISH MUSEUM (NATURAL HISTORY)

BRITISH BUTTERFLIES.

The Butterflies, probably the best known of all the insects inhabiting the British Isles, are represented by comparatively few species ; about 60 only can be said to occur here regularly. They are all day-flying insects and, in this country, can be distinguished from the Moths by the swollen (club-shaped) ends of their antennæ. The examples selected for illustration in this series are drawn from most of the main groups into which the Butterflies (*Rhopalocera*) are divided.

E 41 SWALLOW-TAIL (*Papilio machaon*).

This, the largest of British butterflies, is also the only representative in these islands of the *Papilionidae*, a family of world-wide distribution, and containing many of the largest and most beautiful of butterflies. Unfortunately, with us it is not common, except in certain restricted areas in the fens of Norfolk and Cambridgeshire, though abroad it occurs in all sorts of localities, and at altitudes up to 12,000 feet (in the Himalayas). The caterpillars feed on Milk Parsley chiefly, but also on Fennel, Wild Carrot and Angelica, and, when full grown, are green with an orange-spotted black band round each segment of the body, the segments separated by a dark blue-tinged band, and the head yellow with black stripes. Just behind the head is a forked, fleshy defensive organ, characteristic of the larvae of this family, which is extruded when the caterpillar is attacked or annoyed, and emits a rather unpleasant smell. The chrysalis is of mixed shades of green and brown and is fastened in an upright position, by the tail and a girdle of silken threads, to the stems of reeds and other plants. The species is not on the whole a very variable one, but occasional specimens have been found entirely black.

E 42(a) ORANGE TIP (*Euchloë cardamines*).

As the figures show, the female of this species is entirely devoid of the orange patch on the forewing so characteristic of the male, and, consequently, when on the wing is easily confused with the much commoner Cabbage White Butterfly. The mottled green underside markings, however, readily identify it. Variation in size and in the shape and arrangement of the markings is rather considerable, especially abroad, where, like most of our British species, its range is

extensive. The rather elongate eggs are laid on the leaves of Hedge Mustard, Charlock, Cuckoo-flower or some allied plant on which the caterpillars feed, and these, when full grown, are delicate bluish green above, much darker below, and bear a white stripe along the side. About August they turn into curious long tapering chrysalids, fastened to the food-plant in the same way as those of the Swallow-Tail, and in this state the winter is passed. The butterflies usually appear on the wing about the middle of May.

E 42 (b) BRIMSTONE (*Gonepteryx rhamni*).

Like the other species on this card, this Butterfly belongs to the *Pieridae*, which family also contains the Cabbage Whites, the Wood White and a vast number of foreign species. Unlike the other British members of the family, the Brimstone emerges in the late summer or early autumn and passes the winter as a butterfly, being brought back to activity any warm day in the spring and continuing on the wing till May or June. The female is much paler and more green than the male, and generally rather larger; her eggs are to be found in May and June on the undersides of the leaves of Buckthorn principally. The caterpillars are a powdery green with a pale line along the side, and usually rest along the midribs on the upper sides of the leaves, but are not at all easy to see. The chrysalis is bluish-green, very deep through the centre, rather angular, and easily mistaken for a twisted leaf.

E 42 (c) CLOUDED YELLOW (*Colias croceus*).

The Clouded Yellow belongs to what is probably the most popular genus of the *Pieridae*, on account of the wide distribution, the great range of variation, and the delicate beauty of coloration of its members. Yet its claim to be a truly British species is rather questionable, as there can be little doubt that, were it not for the frequent incursions of migrants from abroad, it would very quickly become excessively rare or die out altogether, for it seems that except in some few exceptionally sheltered localities, the chances of the species surviving the winter in this country are very slender. The early stages are rather similar to those of the Brimstone, but the caterpillar has a much broader pale stripe along the side, and is rather stouter, and the chrysalis is not so humped on the back. The food-plants are quite different, being Clover, Lucerne, &c. Two forms of the female occur commonly, one coloured orange like the male, the other almost white. The latter is known as the *helice* form. Both can be distinguished from the male by the possession of pale markings within the black borders of the wings.

E 43 (a) COMMA (*Polygonia c-album*).

Although formerly occurring throughout a large part of Britain, this butterfly of late years has become mainly restricted to the neighbourhood of Gloucester and Hereford, occasionally spreading further afield, as in 1922, when it was met with again in a number of southern counties. Its seemingly battered and torn wings give it a very distinctive appearance, and the sexes are alike in this respect, but the males can usually be separated by the greater contrast between the mottled greens and browns of their undersides. The winter is passed in the butterfly state, which lasts till May or June; sometimes a second brood makes its appearance in June or July. The caterpillar is black, very spiny, and has a large white patch on the back extending from the tail two-thirds of the way to the head. Its usual food-plants are Nettle and Hop. The chrysalis is brownish, and bears many blunt projections and a few silvery or golden markings; like those of all the *Nymphalidae*, to which family belong all the species on this card and on the next, it is suspended by the tail and has no girdle round it.

E 43 (b) PEARL-BORDERED FRITILLARY
(*Argynnis euphrosyne*).

The sexes of this small butterfly are very similar, and a good way to distinguish them is by examining the front pair of legs. In the male these are exceedingly small and slender, and the last joints taper to a point and are covered with long hairs so that they look like delicate brushes; in the female they are not quite so small and the extremity is rounded and bears several sharp projections so that it resembles rather a curved comb. These features are characteristic of all the *Nymphalidae* and furnish a ready means of determining the sexes. The butterfly is quite a common woodland species and can be taken in most parts of England and Wales in May and June. Like the next species, its food-plant is Dog Violet, and it passes the winter as a caterpillar.

E 43 (c) SMALL PEARL-BORDERED FRITILLARY
(*Argynnis selene*).

This species has been shown in order to distinguish it from the larger Pearl-bordered Fritillary. It will be seen that, apart from the question of size, which is not at all a reliable character, it is rather darker above and has heavier black markings round the margins of the wings. The chief differences are on the underside. The Pearl-bordered has the markings at the tip of the forewings and on the

hindwing usually of a rather pale, light brown shade, and the silvery spots are not very prominent. In the smaller species these same spots are very pearly and stand out conspicuously against the very dark brown markings of the rest of the wing. The habits of the two species are much the same, but the smaller one is generally a little later in appearing on the wing and is rather more local. The caterpillar is velvety black with a pinkish tinge and bears numerous short, thick, branched spines, of which the first two are directed forward and look like horns, a character not nearly so marked in the other species, the caterpillar of which is otherwise very similar but blacker. The chrysalids are very much alike but that of the larger species is more constricted about the middle.

E 43 (d) PAINTED LADY (*Pyrameis cardui*).

With the exception of South America the range of this very well known butterfly is world-wide and it occurs at all altitudes from sea-level to 12,000 feet or more. It is a notorious migrant and to this reason should be attributed its occasional abundance in this country. It is probably affected by the English winter in the same way as the Clouded Yellow, but is a little hardier than that species, and normally is not able to hibernate, at least not for long periods, in any stage. Thistles form the staple food of its caterpillars, and their presence on these plants is usually given away by the rough shelters they make with silk threads between the stalk and a leaf. When fully grown the caterpillar is rather stout, greyish-green or blackish and has a prominent yellow line along the side and others, fainter, along the back, and bears numerous rather long, much-branched slender spines. The chrysalis shows a number of slight prominences and is grey or greenish, shaded with brown and dotted with gold. A few specimens are often to be seen in early summer, but the species is generally commonest in late summer and early autumn.

E 44 (a) PURPLE EMPEROR (*Apatura iris*).

The male only of this species has the purple flush, in which originated the popular name, but the female is quite devoid of it and is much browner and has wider white bands and larger, more rounded wings. It is on the wing in July, but is a rare butterfly and difficult to catch, even where it is known to occur, as it habitually flies high out of reach. The caterpillars hatch in August and after a while settle down to pass the winter. They rapidly feed up in the spring and pupate during June. Before pupation they are green in colour with diagonal yellowish stripes along the sides, and can al-

ways be recognised as they bear two pronounced horns on the head, a feature not found in the caterpillars of any other British species. The chrysalis is whitish green, stout in the middle, and suspended, head downwards, by the tail. The food-plant is Sallow.

E 44 (b) WHITE ADMIRAL (*Limenitis sibilla*).

The White Admiral resembles in certain respects the last mentioned species, but it is always smaller and never has the brilliant gloss of the male Purple Emperor. It is also commoner and can be met with readily in many parts of the south of England. The caterpillar feeds on Honeysuckle, and, soon after hatching, forms a shelter by fastening a partially detached leaf to the stem by means of silken threads, and in it passes the winter. About May, when fully grown, it is green with yellowish markings down the side and a pair of stout, much branched, bristly spines on each segment of the body, except the first. The head also is spiny. The chrysalis is very angular, suspended by the tail, and beautifully marked with dark brown, green and gold. The butterfly is a woodland creature and has a very graceful, skimming flight. It is on the wing principally in July.

E 45 (a) GREEN HAIRSTREAK (*Callophrys ruti*).

A familiar spring species, by no means uncommon, and to be found along hedges and lanes and open spaces ; but its green underside renders it rather difficult to see. It belongs to the *Theclinae*, a subfamily of the *Lycaenidae* (or Blues) most readily distinguished from the true Blues by having the extremity of the hindwing more or less lobed. The caterpillar is pale green with oblique yellow stripes down the sides, and a darker line along the back. In shape it is rather slug-like with a small and inconspicuous head, and is most often to be found on Furze, Broom, etc. About the end of June it changes to a small, stumpy, purplish-brown chrysalis, sometimes held insecurely in position by a few strands of silk, sometimes quite unattached, and hidden amongst leaves or about the surface of the ground.

E 45 (b) COMMON BLUE (*Polyommatus icarus*).

The male of this species is bright blue on the upperside, somewhat variable as to shade, occasionally being almost as bright as the Adonis Blue ; but it never has the strongly-chequered fringes of that species. The female is brown with a little blue powdering on the upperside and a series of orange spots round the margins of the wings ; sometimes specimens are found however in which the whole area of the wings is blue, but never quite the same blue as in the

males. The markings of the underside are very variable, but, as in all the members of this group, the same in both sexes. The species is a good representative of the *Lycaeninae*, the typical Blues, and is without any lobed area to the hindwing. It is often abundant in open meadows and on downs where its food-plants, Bird's foot, Trefoil, Rest Harrow, etc., are plentiful, and may be found pretty well throughout the summer. The caterpillar is somewhat similar to that of the Green Hairstreak, but is more hairy, and is not so conspicuously marked. The chrysalis seems either to form a very feeble cocoon or not, according to the situation in which it is placed, and is green, short and broad.

E 45 (c) DUKE OF BURGUNDY FRITILLARY
(*Nemeobius lucina*).

This little species is the only representative in this country of the *Erycinidae*, a family which has reached its greatest development in South America. Most closely related to the Blues, its name is misleading, as it has little to do with the true Fritillaries, although, like them, it has the front legs much reduced, especially in the male. But if these legs are examined carefully it will be seen that in the female they are furnished with claws; which is not the case with the females of the *Nymphalidae*. The butterfly is fairly common in wooded areas in the south of England in May and June. The food-plant is Cowslip, on which the eggs are laid. The caterpillar is very much like those of the Blues in shape. When full-grown it is brown, covered with short white hairs amongst which are a few longer and dark brown, and marked on the sides and back with black. The chrysalis is very pale whitish brown with numerous black dots, and hairy.

E 45 (d) LARGE SKIPPER (*Augiades sylvanus*).

The Skippers form a very compact group. They are mostly day-flying and have clubbed antennae, but many of their characters strongly suggest that they are not really true Butterflies at all; in fact they are often treated as a separate Sub-Order of the *Lepidoptera* under the name *Grypocera*. Their family name is *Hesperiidae*. The species figured here is common throughout England during June and July; its flight is extremely rapid. The caterpillar forms a tubular shelter of the blades of grass on which it feeds, and passes the winter in it. It is pale-green and rather plump, with a brown, knob-like head which is lobed and marked with a pale line on each side. The chrysalis is dark brown, rather long and narrow, the shape of the wings, legs, antennae, etc., being very plainly visible.

Set E. 5

January, 1923.